

Los Osos Wastewater Project
 Technical Advisory Committee: Engineering Working Group

Topic	Question Date	Question Answered	Question	Answer	Status
Ch 2	7-12-07	7-13-07	Imported water: What is the cost of imported water that would be needed for Los Osos?	The costs and feasibility of imported water have not been carefully analyzed, but would likely be approx. \$1200 per acre-foot/year, plus buy-in and capital costs, if excess water is available. A certain amount of analysis will be necessary during the CEQA review process in 2008. The actually quantity of water that may be needed, if any, depends on the water resources management in the community.	
Ch 2	7-12-07	7-13-07	Injection wells: What is the cost of using injection wells to mitigated seawater intrusion? Would it be possible to use an existing well to do this?	According to Cleath and Assoc., using a limited number of existing water supply wells as direct injection wells would not be an effective measure to mitigate seawater intrusion. A seawater intrusion barrier system of direct injection wells would need to be specifically design for the horizontal and vertical features of the GW basin, with wells every 500 to 1000 feet. This would require from 30 to 40 injection wells, plus upgraded wastewater treatment processes, blend water wells, distribution system piping and storage.	
Ch 3	6-20-07	6-22-07	Tank replacement: Discussion on why all of the tanks needed to be replaced if using a STEP system. Would it be possible to get an engineer to sign off on plans that did not include 100% replacement of tanks?	100% tank replacement is a conservative estimate. For an existing tank to be reused it would have to be pumped out, inspected, and pressure tested, which would be costly. If the test failed, the tank would still have to be replaced. Existing tanks would also have to be retrofitted for STEP pumps. Both Ripley and Dr. Tchobanoglous agree that the community should expect to replace all septic tanks for a	

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				STEP system.	
Ch 3	6-20-07	6-22-07	Further STEP study: What are some of the ways we could possibly bring the cost of STEP down? Is it possible to retrofit the tanks instead of replace? Is it possible to have two houses attached to one STEP tank? County did a study in 1986 on the possibility of attaching two houses to one STEP tank (Turri Rd). We should look at that study.	See above for retrofitting. The 1986 study may be worth revisiting, however most STEP proposals in recent years have envisioned one tank per house.	
Ch 3	6-20-07	6-22-07	Back up power: What kind of back up power would be needed for the STEP tanks? A back-up generator? Does the project require or suggest any sort of back up power the homeowners will be responsible for?	STEP tanks have sufficient storage for most power outages, less than a few days. It is not anticipated that any agency would require individual generators for each home. It is typical for lift stations that serve neighborhoods to have back-up power.	
Ch 3	6-20-07	6-22-07	Old septic tank: Can the old tank be used to store run off water?	Yes, that possibility was recommended in the Coastal Development Permit.	
Ch 3	6-20-07	6-22-07	Design life: What is the design life time of the system?	It is expected that the system will last several decades, with proper maintenance.	
Ch 3	6-20-07	6-22-07	Carbon footprint: Discussion on the carbon footprint of the systems. Topics included the high price of utilities, lowering cost of electricity and efficiency in power production, quality of alternative power and usability, importance of energy use and community views		Comment

Los Osos Wastewater Project
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			of alternative power.		
Ch 3	6-20-07	6-22-07	Energy consumption: Tbl 8-2 and 8-3: energy consumption of the two systems. The level of detail seems to be unbalanced. There seems to be a greater level of detail in regard to gravity. Compared to the Ripley report, this shows the energy requirements for STEP are 30% higher than what was assumed by Ripley. Ripley did a more thorough look at STEP energy requirements. It may be that this is not critical because the order of magnitude is the same.	Due to the existence of a 100% design for a gravity system, it is reasonable that there would be a higher level of detail in the estimates.	
Ch 3	6-20-07	6-22-07	STEP O&M: Discussion of the replacement time for the pump and estimated time between pumping. Possible major source of O & M costs can come from floats in the STEP tanks. Possible that some of the replacement may be necessary before the assumed time.		Comment
Ch 3	6-20-07	6-22-07	Alarm system: Discussion of monitoring. What kind of alarm system was assumed? Is it possible to have a centralized one? Relying on the homeowner to report an alarm is not always reliable. It is possible to break into	STEP systems can be outfitted with a warning light or alarm at the house, with the homeowner responsible to call for service. Or, a telemetry system can be installed to notify a central service center. The Fine Screening Report assumes remote telemetry to a central maintenance operator.	

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			the lock box where the alarm is to shut it off manually. Suggest perhaps a silent alarm that goes straight to the treatment plant.										
Ch 3	6-20-07	6-22-07	Control box: where is it located in regard to the tank? What will be seen above the tank?	Orenco's website shows a small control box that looks similar to a controller for a lawn sprinkler system. It could probably be located on a wall of the house. Tank lid and access hatch would also be visible.									
Ch 3	6-20-07	6-22-07	Odor control: what type of filters can be used in the STEP system? How reliable are these filters and how often do they need to be replaced? Would they be above ground or below ground?	STEP tanks would be vented to roof level, similar to existing septic tanks. Air release valves on the pressurized main lines would be inside of an enclosure similar to a water distribution system, but with a carbon or other type of filter.									
Ch 3	7-26-07	7-26-07	Gravity system: According to the design, what is the average depth to the top of pipe? What is the deepest depth of pipe? What is the percentage of total pipe (44 miles) at each depth?	<div>Average depth of pipe: 8 feet to top of pipe Lowest depth of pipe: 21 feet to top of pipe % of pipe at different depth tiers (4-8', 8-12', 12-16' and >16'):</div> <table><tr><td>< 8 ft</td><td>63%</td></tr><tr><td>8-12 ft</td><td>34%</td></tr><tr><td>12-16 ft</td><td>2%</td></tr><tr><td>> 16 ft</td><td>1%</td></tr></table>	< 8 ft	63%	8-12 ft	34%	12-16 ft	2%	> 16 ft	1%	
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Ch 3	7-26-07		Gravity system: How many lift stations? How many pocket stations? What is the horsepower of the pumps for both the lift stations and pocket pumps?	12 pocket stations (2 to 3 pumps per station) @ 1hp per pump 4 duplex lift station @ 5 and 10 hp per pump 1 triplex lift station @ 60 hp per pump									
Ch 4	6-18-07	7-3-07	Treatment costs: The nitrogen mg/l for effluent for treatment using	See Tables 4.17 and 4.19	Comment								

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			STEP was over 10 for most systems, yet the cost estimate table did not reflect the add'l cost to add treatment processes for these same systems.		
Ch 4	6-18-07	7-3-07	Tri-W: What are the specific numbers for Tri-W in regards to the costs related to the treatment technology? (O&M, capital, etc.)	The capital construction costs for MBR treatment in the Tri-W Project are listed in Table 7.2 as \$55M. Annual treatment O&M is estimated at \$700k.	
Ch 5	6-29-07	7-3-07	STEP tank septage: For the volumes calculated in Table 5.13, do these numbers assume the septage from the STEP tanks will be received at the plant?	The septage from STEP tanks would go to the plant for treatment, including a pond treatment system.	
Ch 5	7-9-07	7-13-07	Green waste: How much green waste is currently being hauled out of Los Osos annually? Would it be possible to use it for composting of bio-solids? How much green waste would the composting process require?	Approximately 5,200 tons per year of green waste is hauled from Los Osos. This value is fairly constant over the years. It is likely that this amount could be available for composting in Los Osos. Based on a 5:1 blend, this could be mixed with approx. 1,000 tons/year of biosolids.	
Gen	6-29-07	7-3-07	All levels of SWI mitigation require purveyor participation. Water conservation assumes reduced pumping of west-side, lower-aquifer wells.	Conservation doesn't necessarily require purveyor financial participation, which is the main threshold. Reduced lower aquifer production on the west side will occur, with or without conservation. The benefit of conservation is not having to make up the reductions elsewhere.	Comment
Gen	6-18-07		Tri-W: The Tri-W project should be in every table, how can we analyze it without data?		Comment

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